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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* YOUSSEF DRISSI and RICARDO VILALTA

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Appeal 2009-005517  
Application 09/713,342  
Technology Center 2100

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Before: JOHN A. JEFFERY, LANCE LEONARD BARRY, and  
DEBRA K. STEPHENS, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

Appellants appeal under 35 U.S.C. § 134(a) (2002) from a non-final rejection of claims 1-23. We have jurisdiction under 35 U.S.C. § 6(b) (2008).

We AFFIRM

### *Introduction*

According to Appellants, the invention is a data classification method and apparatus for labeling unknown objects. A learning algorithm utilized in the invention, adapts through experience. Objects in domain datasets are classified using data classification models and a corresponding bias. The performance of the data classification is evaluated and based on the evaluation, the bias of the learning algorithm may be modified to improve the process. (Abstract)

### STATEMENT OF CASE

#### *Exemplary Claim(s)*

Claim 1 is an exemplary claim and is reproduced below:

1. A method for classifying data, comprising the steps of:

classifying objects in a domain dataset using one or more data classification models, each of said one or more data classification models having a bias;

selecting at least one of said one or more data classification models based on a meta-feature that characterizes said domain data set;

evaluating the performance of said classifying step; and

modifying said bias based on said performance evaluation.

### *References*

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

A.D. McAulay, et al., “*Improved Learning in Genetic Rule-Based Classifier Systems*,” Systems, Man and Cybernetics, 1991; Decision Aiding for Complex Systems, Conference Proceedings, 1991 IEEE International Conference, October 13-16, 1991, pages 1393-1398, Vol. 2. (“McAulay”).

D.D. Lewis, “*An Evaluation of Phrasal and Clustered Representations on a Text Categorization Task*,” Proceeding of the Fifteenth Annual International ACM SIGR Conference on Research and Development in Information Retrieval, June 1992, pages 37-50 (“Lewis”).

### *REJECTIONS*

Claims 1-23 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter (Ans. 3).

Claims 1-4, 8, 9, 13-19, and 21-23 stand rejected under 35 U.S.C. § 102(b) as being anticipated by McAulay (Ans. 8).

Claims 5-7, 10-12, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McAulay and Lewis (Ans. 18).<sup>2</sup>

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<sup>2</sup> We note that although the Examiner refers to § 112 rejections (Ans. 28, 31, and 33), no such rejections are before us. *See* Appellants’ Statement of Grounds of Rejection to Be Reviewed on Appeal (App. Br. 3) and Examiner’s confirmation of the correctness of Appellants’ statement (Ans. 2).

## GROUPING OF CLAIMS

(1) Appellants argue the § 101 rejection of all of the claims collectively as a group. (App. Br. 3-5). We select the independent claims as the representative claims. We will, therefore, treat the dependent claims as standing or falling with their representative independent parent claim.

(2) We treat the § 102 rejection of claims 1-4, 8, 9, 13-19, and 21-23 as a group (*id.* at 5-9).

(3) We treat the § 103 rejection of claims 5-7, 10-12, and 20 as a group (*id.* at 9-10.)

*See* 37 C.F.R. § 41.37(c)(1)(vii).

## ISSUE 1

### *35 U.S.C. § 101: claims 1-23*

Appellants argue each independent claim includes at least one transformation (App. Br. 5). Specifically, Appellants argue that the invention as recited in independent claims 1, 16, and 22 modifies the bias of one of more of the data classification models, based on evaluation of the performance; as recited in independent claims 8, 21, and 23, classifies objects and selects a data classification model; and as recited in claim 13, processes performance values for each combination of the domain dataset and the bias to adjust the rules for subsequent classification (*id.*).

The Examiner finds the invention as recited in the claims is, at best, transformation of pure “data” via an algorithm (Ans. 23). The Examiner further finds the “data” is purely mathematical data and thus, the invention as recited claims an abstract idea (Ans. 24). In addition, the Examiner finds the inventions recite computer programs per se (Ans. 27).

*Issue 1:* Has the Examiner erred in concluding claims 1-23 recite non-statutory subject matter?

### ANALYSIS

The subject matter of claims permitted within 35 U.S.C. § 101 must be a machine, a manufacture, a process, or a composition of matter. Moreover, our reviewing court has stated that “[t]he four categories [of § 101] together describe the exclusive reach of patentable subject matter. If the claim covers material not found in any of the four statutory categories, that claim falls outside the plainly expressed scope of § 101 even if the subject matter is otherwise new and useful.” *In re Nuijten*, 500 F.3d 1346, 1354 (Fed. Cir. 2007); *accord In re Ferguson*, 558 F.3d 1359 (Fed. Cir. 2009). This latter case held that claims directed to a “paradigm” are non-statutory under 35 U.S.C. § 101 as representing an abstract idea.

#### *Claim 1*

Not every method claim is patent-eligible under § 101. *See Bilski v. Kappos*, --- U.S.---, 130 S. Ct. 3218, 3229-30, --- L.Ed.2d (2010) (discussing the process claims in *Gottschalk v. Benson*, 409 U.S. 63 (1972) and *Parker v. Flook*, 437 U.S. 584 (1978) being non-statutory under § 101). To make this determination, we first apply the machine-or-transformation test, which the Court has stated is a useful clue in determining whether a claim is a process under § 101. *Bilski*, 130 S. Ct. at 3231, 3227. The machine-or-transformation test states “an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.” *In re Bilski*, 545 F.3d 943, 961 (Fed. Cir. 2008) (en banc) (citation omitted), *aff’d Bilski*,

130 S. Ct. The U.S. Supreme Court recently reaffirmed that “the machine-or-transformation test is a useful and important clue . . . for determining whether some claimed inventions are processes under § 101.” *Bilski*, 130 S. Ct. at 3227.

Claim 1 recites a method for: (1) classifying objects in a domain dataset using one or more data classification models; (2) selecting at least one of the data classification models, each of which has a bias; (3) evaluating the performance of the classifying step; and (4) modifying the bias based on the performance evaluation. None of these steps is tied to any machine, whether particular or otherwise; therefore, claim 1 does not satisfy the first prong of the machine-or-transformation test. Additionally, these steps (e.g., classifying, selecting, evaluating, and modifying) do not transform an article into a different state or thing, contrary to Appellants’ arguments. Instead we find these steps recite what could be broadly but reasonably construed as software code or a person performing the classifying, selecting, evaluating, and modifying—even mentally. “Abstract software code is an idea without physical embodiment.” *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 449 (2007). *See also In re Comiskey*, 554 F.3d 967, 979-80 (Fed. Cir. 2009) (noting that mental processes are unpatentable even if they have practical application). Thus, we conclude these concepts of classifying, selecting, evaluating, and modifying are steps in a non-statutory process. Therefore, Appellants attempt to patent abstract software code implementing a classification system. To the extent recited in the claims, bias and meta-features are data and the domain dataset and data classification models appear to be software entities in and of themselves, and

they are not necessarily stated or claimed to be embodied in hardware structure.

Accordingly, we find the invention recites an abstract idea. For the reasons set forth above, we also find claims 2-7, each recite an abstract idea. We therefore find that the method recited in claims 1-7 is directed to non-statutory subject matter under § 101.

*Claim 8*

Similarly, we find that the recited processing step in claim 8 also does not rise to the level of transformation required to remove it from being abstract. Again, we find this step recites what could be broadly but reasonably construed as software code or a person performing the processing—even mentally. Accordingly, we find the invention of claim 8 recites an abstract idea. For the reasons set forth above, we also find claims 9-12 each recite an abstract idea. We therefore find that the method recited in claims 8-12 is directed to non-statutory subject matter under § 101.

*Claim 13*

Appellants' argument that processing to adjust rules is a transformation is similarly unpersuasive. Again we find that this processing does not rise to the level of transformation required to remove it from being abstract as this step could broadly but reasonably be construed as software code or a person performing the processing. Accordingly, we find the invention recites an abstract idea. For the reasons set forth above, we also find claims 14 and 15 each recite an abstract idea. We therefore find that the method recited in claims 13-15 is directed to non-statutory subject matter under § 101.



*Claims 16*

“[A] machine is a concrete thing, consisting of parts, or of certain devices and combination of devices. This includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result.” *In re Ferguson*, 558 F.3d at 1364 (quotation marks, citations, and quotations omitted). Nominal recitations of structure, such as non-limiting preamble recitations, are insufficient to bring a claim within the scope of statutory subject matter. *Cf. Ex parte Langemyr*, 89 USPQ2d 1988, 1996 (BPAI 2008) (informative). Claim 16 must be construed in its entirety. *See Catalina Marketing Int’l, Inc., v. Coolsavings.com Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002).

Claim 16 recites a memory and a processor configured to implement computer-readable code configured to classify, select, evaluate, and modify. Aside from the nominal preamble recitations directed to a generic memory and processor, we conclude that claim 16 considered as a whole is directed to the method of classifying data in the abstract. *See Ex parte Gutta*, 93 USPQ2d 1025, 1032-33 (BPAI 2009) (precedential) (holding that system claim 14 including a memory and processor that otherwise recited an abstract idea failed to recite statutory subject matter under § 101).

Laws of nature, abstract ideas, and natural phenomena are excluded from patent protection. *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). A claim that recites no more than software, logic or a data structure (i.e., an abstraction) does not fall within any statutory category. *In re Warmerdam*, 33 F.3d 1354, 1361 (Fed. Cir. 1994).

Similarly, for the reasons set forth above, we conclude that independent claims 21-23, while nominally reciting an article of

manufacture including a computer-readable medium, are also directed to the arrangement and display of data in the abstract. *See Gutta*, 93 USPQ2d at 1034 (holding that claim 19 reciting article of manufacture that otherwise recited an abstract idea failed to recite statutory subject matter under § 101). Accordingly, we conclude that the inventions recited in claims 16-23 are directed to non-statutory subject matter.

## ISSUE 2

*35 U.S.C. § 102(b): claims 1-4, 8, 9, 13-19, and 21-23*

Appellants argue their invention is not anticipated by McAulay since the Examiner has not addressed the assertion that McAulay discloses “selecting at least one of said one or more data classification models based on a meta-feature that characterizes said domain data set” as recited in claim 1 (App. Br. 6).

The Examiner finds that McAulay discloses the element based on the standard meaning of terms and Appellants have not explained the inconsistent use of terms (Ans. 28-38).

*Issue 2:* Has the Examiner erred in finding McAulay discloses “selecting at least one of said one or more data classification models based on a meta-feature that characterizes said domain data set?”

## ANALYSIS

*Claims 1, 13, and 16*

We find the Examiner has not shown that McAulay discloses “selecting at least one of said one or more data classification models based on a meta-feature that characterizes said domain data set” as recited in claim 1. Specifically, although the Examiner indicates that McAulay

discloses this element, the Examiner has not indicated the disclosure in McAulay that describes this element (*See* Ans. 8-9). Instead, the Examiner provides general statements that McAulay discloses this element (*See e.g.*, Ans. 31 and 35). Therefore, we conclude the Examiner has not set forth a *prima facie* case for the rejection of claim 1 and thus, the rejection is in error.

Similarly, the Examiner did not map the “selecting” step recited in claim 16 or selecting “a data classification model based on a meta-feature that characterizes said domain data set” recited in claim 13. For the same reasons set forth for claim 1, the Examiner has not shown that McAulay discloses these elements as recited in claims 13 and 16.

*Claims 2-4, 14, 15, and 17-19*

Claims 2-4, 14, 15, and 17-19 depend from claims 1, 13, and 16. Thus, these claims stand with claims 1, 13, and 16. Accordingly, the Examiner has not shown McAulay discloses the invention as recited in claims 2-4, 14, 15, and 17-19.

*Claims 8, 21, and 23*

The Examiner finds that McAulay describes the function of “selecting a data classification model for classifying a domain dataset by comparing characteristics of said domain dataset to said rules” as recited in claim 8 and commensurately recited in claims 21 and 23 (Ans. 11, 16, and 18).

Appellants have not presented any arguments or evidence as to why McAulay does not disclose this element, instead relying on arguments set forth for claim 1. However, the recitations are different and the Examiner has provided a specific finding as to McAulay’s disclosure of this element. *See Hyatt v. Dudas*, 551 F.3d 1307, 1314 (Fed. Cir. 2008) (“When the appellant fails to contest a ground of rejection to the Board, section

1.192(c)(7) [(now section 41.37(c)(1)(vii))] imposes no burden on the Board to consider the merits of that ground of rejection.... [T]he Board may treat any argument with respect to that ground of rejection as waived.”); *see also In re Guess*, 2009 WL 1598475 at \*1 (Fed. Cir. June 9, 2009) (“Appellants failed to argue that any limitations unique to [the claims] survive [the rejection]. Appellants have therefore waived any such arguments on appeal.”) (citing *In re Watts*, 354 F.3d 1362, 1367 (Fed. Cir. 2004)). Accordingly, Appellants have not shown the Examiner erred in finding McAulay discloses “selecting a data classification model for classifying a domain dataset by comparing characteristics of said domain dataset to said rules” as recited in claim 8 and commensurately recited in claims 21 and 23.

#### *Claim 9*

Claim 9 depends from claim 8. Appellant did not present any additional arguments or evidence for the patentability of claim 8. Thus, claim 9 falls with claim 8 for the reasons set forth above with respect to claim 8. Appellants have not shown the Examiner erred in finding McAulay discloses the invention as recited in claim 9.

### ISSUE 3

*35 U.S.C. § 103(a): claims 5-7, 10-12, and 20*

#### *Claims 5-7 and 20*

The Examiner asserts claims 5-7 and 20 are taught by the combination of McAulay and Lewis. Although the Examiner has set forth some arguments with respect to claim 1 and the Lewis reference, it is not clear how Lewis cures the deficiencies of McAulay given the rejection of claim 1. We will not engage in speculation in trying to determine the basis for the

claims rejection. Therefore, the Examiner has not shown the combination of McAulay and Lewis discloses the invention as recited in claims 5-7 and 20.

*Claims 10-12*

Claims 10-12 depend from claim 8. Appellants did not provide any further arguments or evidence for the patentability of claims 10-12 and as set forth above, Appellants have not shown the Examiner erred in finding McAulay discloses the invention as recited in claim 8. Therefore, Appellants have not shown the Examiner erred in finding the combination of McAulay and Lewis teaches the invention as recited in claims 10-12.

**CONCLUSION**

Appellants have not shown the Examiner erred in concluding claims 1-23 recite non-statutory subject matter. Accordingly, Appellants have not shown the Examiner erred in rejecting claims 1-23 under 35 U.S.C. § 101.

Appellants have shown the Examiner erred in finding claims 1-4, 13-15, and 16-19 are anticipated by McAulay. Accordingly, Appellants have shown the Examiner erred in rejecting claims 1-4, 13-15, and 16-19 under 35 U.S.C. § 102(b) for anticipation by McAulay.

Appellants have not shown the Examiner erred in finding claims 8, 9, 21, and 23 are anticipated by McAulay. Accordingly, Appellants have not shown the Examiner erred in rejecting claims 8, 9, 21, and 23 under 35 U.S.C. § 102(b) for anticipation by McAulay.

Appellants have shown the Examiner erred in finding that McAulay and Lewis teach the invention as recited in claims 5-7 and 20. Accordingly, Appellants have shown the Examiner erred in rejecting claims 5-7 and 20 under 35 U.S.C. § 103(a) for obviousness over McAulay and Lewis.

Appellants have not shown the Examiner erred in finding that McAulay and Lewis teach the invention as recited in claims 10-12. Accordingly, Appellants have not shown the Examiner erred in rejecting claims 10-12 under 35 U.S.C. § 103(a) for obviousness over that McAulay and Lewis.

#### DECISION

The Examiner's rejection of claims 1-23 under 35 U.S.C. § 101 as being directed to non-statutory matter is affirmed.

The Examiner's rejection of claims 1-4, 13-15, and 16-19 under 35 U.S.C. § 102(b) as being anticipated by McAulay is reversed.

The Examiner's rejection of claims 8, 9, 21, and 23 under 35 U.S.C. § 102(b) as being anticipated by McAulay is affirmed.

The Examiner's rejection of claims 5-7 and 20 under 35 U.S.C. § 103(a) as being obvious over McAulay and Lewis is reversed.

The Examiner's rejection of claims 10-12 under 35 U.S.C. § 103(a) as being obvious over McAulay and Lewis is affirmed.

Since at least one of the rejections of each of the claims on appeal (i.e., the § 101 rejection) have been affirmed, the Examiner's rejection of claims 1-23 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2009).

AFFIRMED

Vsh

Appeal 2009-005517  
Application 09/713,342

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